

**RAMP TEMPERATURE TECHNIQUES FOR IMPROVED MEAN
WAFER BEFORE CLEAN**

ABSTRACT OF THE DISCLOSURE

A method of operating a substrate processing chamber comprising transferring a first substrate into the substrate processing chamber and heating the substrate to a first temperature of at least 510°C; depositing an insulating layer over the first substrate while reducing the temperature of the substrate from the first temperature to a second temperature that is lower than the first temperature; transferring the first substrate out of the substrate processing chamber; removing unwanted deposition material formed on interior surfaces of the chamber during the depositing step by introducing reactive halogen species into the chamber while increasing the temperature of chamber; transferring a second substrate into the substrate processing chamber and heating the substrate to the first temperature; and depositing an insulating layer over the second substrate while reducing the temperature of the substrate from the first temperature to the second temperature.